# TWO NEW SPECIES OF *CRYPTORHOPALUM* (COLEOPTERA: DERMESTIDAE) FROM THE VIRGIN ISLANDS[1]

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ABSTRACT: Two new species, *Cryptorhopalum quadrihamatus* and *C. preschi* from the Virgin Islands, are described and illustrated.

The genus *Cryptorhopalum* includes 120 described Neotropical species (Mroczkowski, 1968) and about 1/6 as many Nearctic species. A recent study has been published on species of the genus occurring in California (Beal, 1979), but no revisions of the Neotropical fauna have been made since those of Reitter in 1880 and Sharp in 1902. In 1915 Arrow described 3 Neotropical species, 1 of which, *C. scutellare* from Mustique in the Grenadines, is the only named species from the West Indies. From 1915 to 1954 numerous additional Neotropical species were described, mostly by the late Maurice Pic, but their identities cannot be determined from the published descriptions. A revision of Neotropical forms is needed, particularly one using characters available in the male terminalia. The following descriptions are published at this time to make them available for a paper being prepared by M.A. Ivie of the Ohio State University on the beetle fauna of the Virgin Islands. It is the author's hope that the accompanying descriptions of the interesting genital structures of these insects will stimulate others to investigate the systematics of this large, poorly known genus.

***Cryptorhopalum quadrihamatus*** n. sp.

Adult male. Dorsal and ventral pubescent recumbent, entirely light golden. Integument of head, pronotum, basal 1/15 of elytra and narrow line along basal 1/3 of suture black with elytra otherwise uniformly brick red; integument of ventral surfaces black except for brick red antennae and legs. Antennal club ovate.

Head with diameter of punctures of frons equal to about 1 2/3 times diameter of facet of eye and separated by 1/4 to 3/4 times diameter of single puncture. Pronotum with punctures of disc about 1 1/2 times diameter of facet of eye and separated by 1 to 3 times diameter of single puncture. Antennal club with ratio of width to length of segment 10, 1:1.30; ratio of length of segment 11 to segment 10, 1:1.36; ratio of length of club to length of lateral margin of pronotum, 1:1.67. Antennal fossa at lateroposterior margin not attaining margin of hypomeron but plane of hypomeron continued narrowly behind fossa with plane at narrowest point behind fossa about 2/3 as wide as width of segment 3 of antenna. Prosternal process transversely flat, without median carina. Metasternum with very fine, short, diagonal stria originating at margin

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behind mesocoxa. Visible abdominal sternum 1 with 2 oblique striae on each side extending from anterior margin of segment beneath trochanters for 5/6 length of segment. Tibia of front leg widest at middle and tapering more or less evenly toward apex.

Sternum of abdominal segment 8 with anterior process relatively short; posterior median process short and extending obliquely downward somewhat thumb-like with numerous, short, peg-like setae on posterior face and with 4 stout, recurved setae arising from dorsal part of face (Figs. 3, 4). Phallus as illustrated (Fig. 1); phallotreme of aedeagus with anteriorly directed spine; bridge of parameres relatively broad and not arcuate.[1/]

Length of holotype (pronotum plus elytra): 2.1 mm; width (across humeri): 1.3 mm.

**Adult female.** As male except that antennal fossa and club about 1/2 size of male. Visible abdominal sternum 5 without glabrous maculae (the more or less circular patches of pores, presumably for release of pheromones, found in females of many species within the genus). Length of allotype: 2.2 mm; width: 1.4 mm.

**Range of observed variations.** Dorsal pubescence unicolorous light golden, or light golden on pronotum and elytron with few dark brown hairs forming indistinct submedian and subapical bands on elytron, or pronotum and elytron with light golden hairs except elytron with large subbasal round spot and pronounced, irregular, submedian and subapical bands formed by dark brown hairs, or pronotum with light golden hairs and elytron with all dark brown hairs. Dorsal integument entirely brick red with somewhat darker brown pronotal disc to entirely black; most specimens with black pronotum and elytra brick red with suffused blackish area at base and along basal 1/2 of suture. Antennal club with ratio of width to length of segment 10 varying from 1:1.15 to 1:1.45; ratio of length of segment 11 to length of segment 10 varying from 1:1.55 to 1:1.94; ratio of length of club to length of pronotal margin varying from 1:1.51 to 1:1.85. Length of males ranging from 2.0 mm to 2.8 mm; of females from 2.1 mm to 2.9 mm. Ratio of width to length of males and females varying from 1:1.53 to 1:1.65.

**Types.** Holotype male, allotype female and 21 paratypes: British Virgin Islands:Anegada, 23-VIII-80 (M.A. Ivie). Additional paratypes as follows: BRITISH VIRGIN ISLANDS: Anegada, Windlass Bay, 22-VIII-80 (2, M.A. Ivie); Anegada, East end, 24-VIII-80 (1, M.A. Ivie); Norman, 7-VI-79 (1, M.A. & L.L. Ivie). U.S. VIRGIN ISLANDS: Saba, 2 mi, south of St. Thomas, 24-III-79 (2, M.A. & L.L. Ivie); St. Thomas, Brewers Bay, 6-IV-80 (1, M.A. Ivie); St. Thomas, Frenchmans Bay Estate, elev. 750 feet, 11-VI-79 (1, M.A. Ivie); St. Thomas, East Bordeaux, 6-VIII-80 (1, M.A. Ivie). St. John, Lamesure Bay, 11-IV-79 (5, M.A. Ivie); ibid, 15-VIII-80 (1, M.A. Ivie). Holotype and allotype deposited in the collection of the U.S. National Museum of Natural History; paratypes in the collections of the British Museum (Natural History), M.A. Ivie, the Ohio State University, the University of California, Davis, and the author.

**Diagnosis.** Arrow's description of *C. scutellare* suggests that it is a similar insect although a different species, since he referred to the segments of the antennal club as nearly equal. In *C. quadrihamatus* the first segment is 1 1/2 to almost 2 times as long as the second. For those respects in which this species differs from *C. preschi*, see the diagnosis of that species below.

**Etymology.** Quadrihamatus is a Latin nominative singular masculine noun standing in apposition to the generic name and meanig "fourhooked," a reference to the peculiar structure on abdominal sternum 8.

## DISCUSSION

The range of variation in color of the integument and of the elytral

[1/]Descriptions of terminalia of this and following species are based on specimens in same series as the holotype. The latter have not been dissected.

pubescence is unexpected in a single species from such a restricted locality. All of the forms, however, except the all black one, are included in the relatively long series taken the same day on Anegada. The entirely black forms were found in association with the others on St. John but are the only forms seen from St. Thomas. Male terminalia of each form were dissected and found to differ in no significant respect. In other species of *Cryptorhopalum* that have been carefully studied, male terminalia differ somewhat markedly from species to species, but the form is quite stable within each species (Beal, 1979). Male antennal characters were also uniform in all specimens collected. Existing evidence thus points to one highly polymorphic species.

***Cryptohopalum preschi*** n. sp.

**Adult male.** Dorsal and ventral pubescence recumbent, uniformly dark golden brown above, golden below. Integument brownish black except for brown legs and light yellowish brown antennae. Antennal club ovate.

Head with diameter of punctures of frons 1 1/2 to 2 times diameter of facet of eye and separated by 1/4 to 3/4 times diameter of single puncture. Pronotum with punctures of disc about equal in diameter to facet of eye and separated by 1 to 2 times diameter of single puncture. Antennal club with ratio of width to length of segment 10, 1:0.91; ratio of length of segment 11 to length of segment 10, 1:1.06; ratio of length of club to length of lateral margin of pronotum, 1:1.48. Antennal fossa at lateroposterior margin attaining posterior margin of hypomeron so that plane of hypomeron not continued entire length behind fossa. Prosternal process transversely flat without median carina. Metasternum with very fine, short, diagonal stria originating at margin behind mesocoxa. Visible abdominal sternum 1 with distinct oblique stria on each side extending from anterior margin of segment beneath trochanter to posterior margin and much finer, interrupted stria lateral to each. Tibia of front leg about as wide at apex as at middle.

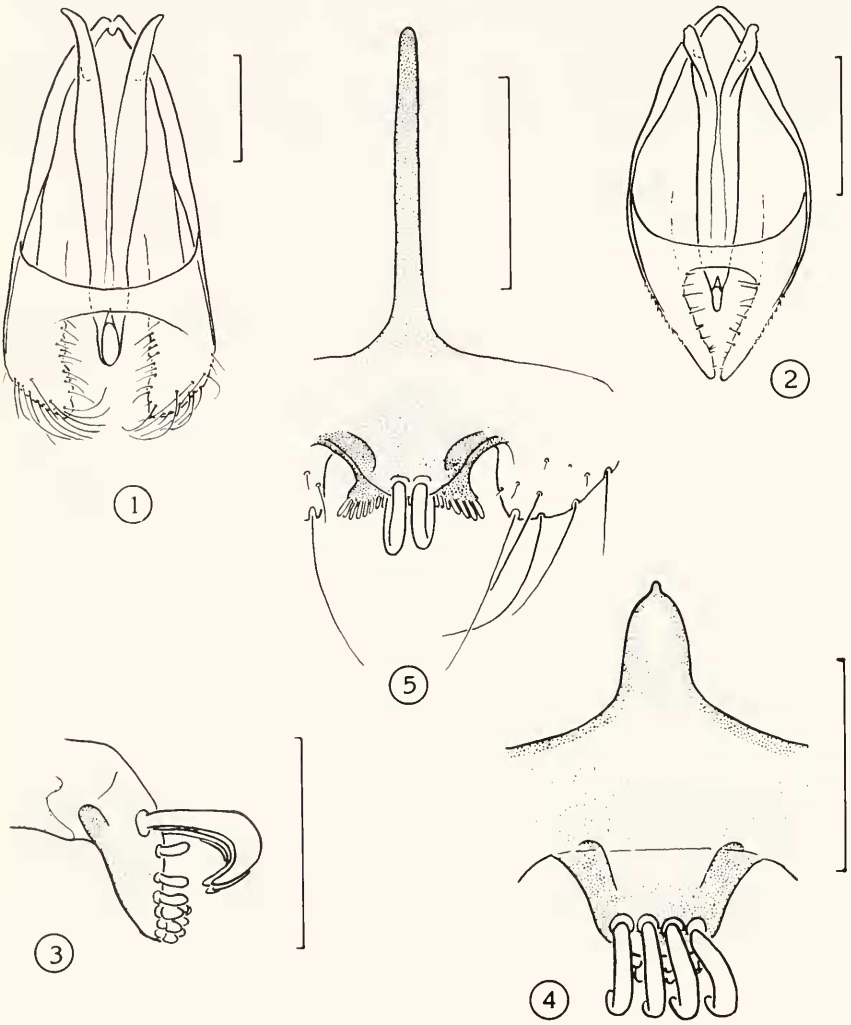
Sternum of abdominal segment 8 with median process consisting of ventral, broad, nearly flat plate and dorsal lobe; plate with row of about 26 short, peg-like setae inserted along transverse apical margin; dorsal lobe with 2 stout, ventrally recurved setae inserted on dorsal side; sockets for insertion of large setae contiguous (Fig. 5). Phallus with anteriorly directed spine on phallotreme of aedeagus; bridge of parameres broad, transverse; parameres narrowed apically (Fig. 2).

Length of holotype (pronotum plus elytra): 1.6 mm; width (across humeri): 0.9 mm.

**Adult female.** As male except as follows: dorsal pubescence light golden brown. Integument of pronotum brownish black with faint metallic green cast. Antennal fossa and club about 1/2 size that of male. Visible abdominal sternum 5 without glabrous maculae (more or less circular patches of pores). Length of allotype: 2.0 mm; width: 1.2 mm.

**Range of observed variations.** Integument of elytra brownish black to medium brown, with or without metallic green cast. Ratio of length of male club to length of pronotal margin varying from 1:1.48 to 1:1.54. Ratio of width to length of males and females varying from 1:1.68 to 1:1.81. Length of females ranging from 1.7 mm to 2.0 mm.

Types. Holotype male and 1 paratype: U.S. Virgin Islands, St. Thomas, Frenchmans Bay Estate, 750 feet elev., 11-VI-79 (M.A. Ivie); allotype female: St. Thomas, Estate Dorothea, 800 feet elev., 6-IV-79 (M.A. Ivie). Additional paratypes as follows: U.S. VIRGIN ISLANDS: St. Croix, Sandy Point southwest of Frederikstad, 25-30-VI-81 (2, J.A. Yntema). St. Thomas, Estate Bordeaux, 6-VII-80 (1, M.A. Ivie). Holotype and allotype deposited in the collection of the U.S. National Museum of Natural History; paratypes in the collections of M.A. Ivie and the author.




Figs. 1-2. Male phalli, ventral view. 1, *Cryptorhopalum quadrihamatus.* 2, *C. preschi.* Figs. 3-5. Sterna of abdominal segment 8. 3, *C. quadrihamatus,* lateral view of median process. 4, *C.. quadrihamatus,* dorsal view of midline. 5, *C. preschi,* dorsal view of midline and right lobe. Each line = 0.1 mm.

**Diagnosis.** This differs from the preceding species in its narrower form, subequal lengths of the antennal segments and remarkably different structure of the median lobe of abdominal sternum 8. *C. preschi* differs from *C. scutellare,* as far as can be determined from Arrow's description, by its narrower form and darker color of the integument. Arrow says of *C. scutellare* that the hairs at the base of the pronotal lobe are divided, "so as to present the appearance of two tufts." This is not true of specimens of either *C. preschi* or *C. quadrihamatus,* but it may or may not be an accident of preservation of specimens of *C. scutellare.*

**Etymology.** The species is named in honor of Dr. William Presch of the Department of Biological Sciences of California State University, Fullerton, in recognition of his contributions to systematic zoology, particularly in the field of cladistic theory.

**Biology.** Collecting data suggest that adults feed on decaying vegetable matter. Yntema took the St. Croix specimens "ex vane trap, ETOH bait." Ivie took a specimen on St. Thomas at a fresh wound on the legume *Bursera.*

## DISCUSSION

Based on the presence of a somewhat elaborately modified median lobe of abdominal sternum 8 of the male and lack of 2 clusters of pores opening onto the last visible abdominal sternum of the female, both this and the preceding species belong to the Triste group of species (Beal, 1979). The presence of a pair of striae on each side of visible abdominal sternum 1 is not, however, a character associated with Nearctic members of the Triste group. Whether the existing separation of species of the genus into 3 groups can be sustained will not be known until a great many more Neotropical species have been critically examined.

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